

11-2015

November 2015 School of Graduate Studies Newsletter

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Scholarly Commons Citation

School of Graduate Studies. (2015, November). Embry-Riddle Aeronautical University, College of Aviation, School of Graduate Studies Newsletter. <https://commons.erau.edu/db-sgs-newsletter/2/>

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EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

Ph.D. IN AVIATION ***[update]***

EMBRY-RIDDLE
Aeronautical University™
DAYTONA BEACH, FLORIDA

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faculty spotlight

David Esser, Ph.D.

Dr. Esser was a member of the ERAU Flight Department from 1981 until 1995. He then became the Associate Chair of the Aeronautical Science Department, where he also served as Program Coordinator from 1999 until 2008. He is currently a faculty member for the doctoral and graduate programs in the College of Aviation. We asked him a few questions about his experience.

Why did you decide to become a professor?

It was an evolutionary process. I started as a flight instructor and it was like being paid to eat ice cream but as we became more senior, the Flight Department needed faculty members with master degrees to take on administrative responsibilities and classroom teaching. I was performing administrative duties in the Flight Department and adjunct teaching in the Aeronautical Science department. In 1993, the university merged the Flight and Aeronautical Science departments. If you blinked, you missed it. Within the same year, it was decided that the departments should be disjoined. Flight faculty continued on as Aeronautical Science faculty. After obtaining a Ph.D., I began teaching graduate courses in the MSA program while being on the committee to develop the Ph.D. in Aviation program.

How long have you been teaching?

I was teaching on a part-time basis since 1979 but went full time in 1981. I tell my students that when I first started here, we were flying biplanes and spoke Latin.

What brought you to Embry-Riddle?

I came here as a student. It was a choice between ERAU, Warrensburg, or Parks College. When I first toured the campus in 1977, as meager as it was then compared to today, it blew my socks off. This was the world's center of aviation higher education and there was no choice after that.

What was your favorite subject in school?

Physics; it explained everything. Like an owner's manual for the universe. I enjoyed math as well; it explained the rules under which the physics behaved.



David Esser, Ph.D.

What is something you want the Ph.D. in Aviation students to know about you?

I am proud of them. This Ph.D. program is the culmination of my passions. As a child as far back as I can remember, I loved airplanes. I bet our students had the same experience. Then, as I progressed in school, I found out what a love of knowledge was. ERAU came into my adolescent life. The Ph.D. in Aviation program is a trinity of these three. I will do everything I can to see our students succeed in the doctoral program and in their post-doctoral accomplishments. It is their successes that keeps our Ph.D. program vital.

What do you find most rewarding about your job?

Seeing the student's diligence and intelligence lead to their successes and feeling a small part in directing their effort.

What advice would you give students?

Be ready for challenges. I don't think there is a single Ph.D. who would tell you that it was easy and everything worked out just as planned. The difference between those who succeed and those who elect to stop is adaptation. When something does not go as planned and it appears to be a dead end, recalculate your path but keep moving forward.

Who has had an impact on your life?

My parents were wonderful. They were loving, nurturing, and disciplining (sometimes I made them have to do this a lot). I was influenced by the early astronauts during the Gemini and Apollo programs. Later in life, I was moved by Richard Bach in his book on Johnathan Livingston Seagull. And of course, there is Dr. Alan Stolzer. One of my Ph.D. advisees noted that I had cited Dr. Stolzer in my dissertation. He wondered if I was trying to gain favor of the boss. I told the student that back when I did my dissertation, I did not know anything about Dr. Stolzer so there is so much more to respect about him now.

What are you most passionate about?

Finding truth whether it is in science, politics, or philosophy.

What are your hobbies?

Biking if you can call it a hobby; I use it to come and go to campus when it is not raining. I also like swimming, scuba diving, and reading APA.

call for papers: ICRAT 2016

The 7th annual International Conference on Research in Air Transportation will be held June 20-24, 2016 at Drexel University in Philadelphia, PA. "ICRAT has now been established as a path-finding event in Air Transportation Research, alternating with the USA/Europe Air Traffic Management (ATM) Research and Development (R&D) Seminar. ICRAT is a forum particularly encouraging young researchers (and their mentors) within air transportation to share their work, expand their professional network, gain new knowledge and inspiration, and discover the new challenges confronting society and the market to improve mobility for citizens and goods," explains Marc Bourgois, Chair.

Papers will be accepted for consideration through February 19, 2016 and may cover any wide range of topics describing theoretical results and innovative applications in air transportation. Papers should clearly state the objectives, approach, methodology, and results of the research, and should draw conclusions that demonstrate the interest of the work. More information is available here: <http://www.icrat.org/icrat/index.cfm?page=callforpapers>

A Doctoral Symposium will also be conducted for students in the early stages of their research in which students can present their work and receive constructive feedback from experienced members of the research community.



PH.D. IN AVIATION STUDENTS PRESENT AT NBAA 2015 IN LAS VEGAS

Matthew D. Grunenwald (below, left) presented on Using Predictive Analytics for Corporate Shuttle Decisions. Chris Broyhill (below, right) made a presentation on IS-BAO and safety culture.



chair's corner

Message from our Chair

by: Alan Stolzer, Ph.D.

I read an article in The Chronicle recently that caught my attention, and not in a positive way. The article was entitled, "Your Dissertation is Almost Done. What's Next? Turnitin". The article described how plagiarism software is catching on in graduate school, including to ensure that dissertations are not plagiarized. Some universities, including the University of Central Florida, require students to submit their dissertations through the software once the dissertation is nearing completion. One UCF professor lamented that she works to develop a close, personal relationship with students, and then at the end she is forced to tell them that she 'doesn't trust them' by having them prove that their work is original. She stated that this 'goes against the kind of pedagogy' she supports.

I couldn't see the situation more differently than that professor. The fact of the matter is that plagiarism is a significant problem in graduate school, and no program that has been around for any length of time, including ours, is immune



Alan Stolzer, Ph.D.

from those problems. A quick Google search on this topic will yield some alarming statistics. Did these professors not have a close, personal relationship with their students sufficient to detect attempted plagiarism? The facts are clear: in spite of our best efforts to stress the importance of research ethics and integrity, not everyone will adhere. Thus, it's in the best interests of the program and all stakeholders to *trust, but verify*.

Aside from the issue of research ethics, the practice of submitting work to Turnitin provides protection against inadvertent mistakes made by even the most meticulous researchers. Many of us have probably inserted someone else's words in our research

with the intention of later paraphrasing them (citing it properly, of course), but what if you become distracted and forgot to do that? As careful as I was when I prepared my authored and edited books, I elected to run the entire manuscripts through a plagiarism tool for peace of mind. I simply wanted to be certain that nothing was going to embarrass me later.

That said, the article points out issues that should be considered. One issue is that Turnitin stores submissions in its database, and some people believe that violates an author's intellectual property rights. For that reason and others, it's important that students and faculty understand how the software operates. This tutorial explains the essentials: <https://ernie.erau.edu/Departments/information-technology/canvas/Pages/ww-canvas-faculty-training.aspx>. As a reminder, we are using the draft submission so the students' papers that will be submitted for publication are not added to the global database. If the paper is submitted in Canvas and

added to the global database, only ERAU instructors can see who authored the work. If an editor submits the blinded work and it was not already in the database (he/she uses the Turnitin Quick Submit option), the work will show up thereafter as authored by an unidentified student from that editor's institution. To protect the student's intellectual property and avoid a false positive for plagiarism, it is a good idea for you to submit your papers directly in Turnitin (if possible) so that your name will be associated with the work for perpetuity for all to see on any future inquiries. The new cloud submit option might be the best solution (see http://www.turnitin.com/en_us/what-we-offer/whats-new#cloud-submit).

In my last update, I mentioned

that some students are progressing slowly in the dissertation, primarily as a result of getting to that point without a clear research plan. The faculty have been discussing strategies to address that concern. I'll talk more about this later, but expect significantly more focus on the development of a satisfactory prospectus in the second residency, and even some work on the first chapter of the prospective dissertation in the third residency. We believe these changes will streamline the transition from course work to dissertation and enable students to get a running start on the latter.

I had the pleasure of attending NBAA a few days ago and attending presentations by Chris Broyhill and Matthew Grunenwald.

Chris presented some early results of his dissertation study on IS-BAO progression, leadership, and safety culture, and Matthew talked about some predictive analytics work related to corporate shuttles that he's been doing with Dr. Bruce Holmes, one of our Ph.D. program advisory board members. Both did a great job and represented us well!

We're only a few days from the end of the September term, and I congratulate all of you for what you've accomplished. Soon our thoughts and attention will be focused on the upcoming holidays, and I wish all of you a peaceful and restful holiday season!

student accomplishments

- * *Ph.D. Graduate Robert "Buck" Joslin's* manuscript titled *Situation Awareness Issues in Unmanned Aircraft Systems Accidents and Incidents* was published in the September 2015 release of *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*.
- * *Ph.D. Candidate John Maris* has been elected the chair of the AIAC board. The Aerospace Industries Association of Canada announced the election of John Maris as Chair of the AIAC Board of Directors on November 17, 2015. The AIAC is a national association representing the aerospace manufacturing and services sector in Canada.



ERAU will be competing for the recently announced Federal Aviation Administration Air Transportation Center of Excellence - Technical Training and Human Performance We've named it the AERIS Center, which stands for Air traffic organization Excellence through Research and Innovative training Solutions.

Background:

In 1990, Public Law 101-508 (49 USC Section 44513) directed the FAA Administrator to create the Air Transportation Centers of Excellence (COE) program. Approximately 12 COEs have been established since that time (many have subsequently closed), and more than \$260M have supported over 500 research projects in the various centers. This investment has resulted in significant advances in aviation science, technologies, and technology transfer. Along with contracts and aviation research grants, COEs are an important avenue for funding essential research for the agency.

COE in Technical Training and Human Performance:

In July 2015 the FAA announced that it intends to create a new COE in Technical Training and Human Performance (TT&HP). The COE in TT&HP will be established in 2016 to focus on training and human performance for the men and women who will be operating the air traffic system of tomorrow. NextGen is modernizing the national airspace system, and new skills and abilities are needed by those who will manage aircraft operating in that system. The FAA recognizes that there are 'evolutions in teaching, such as part-task trainers, modeling, immersive human-in-the-loop simulation, and adaptive learning technologies that are standard in other technical workforces'. Research will include 'new training technologies, such as course content development, mobile learning, delivery and management systems, and integration of simulation capabilities'. Research in human factors will be an important component as well, including changes in 'learning expectations and academic best practices'.

A public meeting was held October 21-22, 2015. A final solicitation is expected to be issued in January, and a selection is anticipated in May 2016. The center will be operational in October 2016.

Embry-Riddle's Approach:

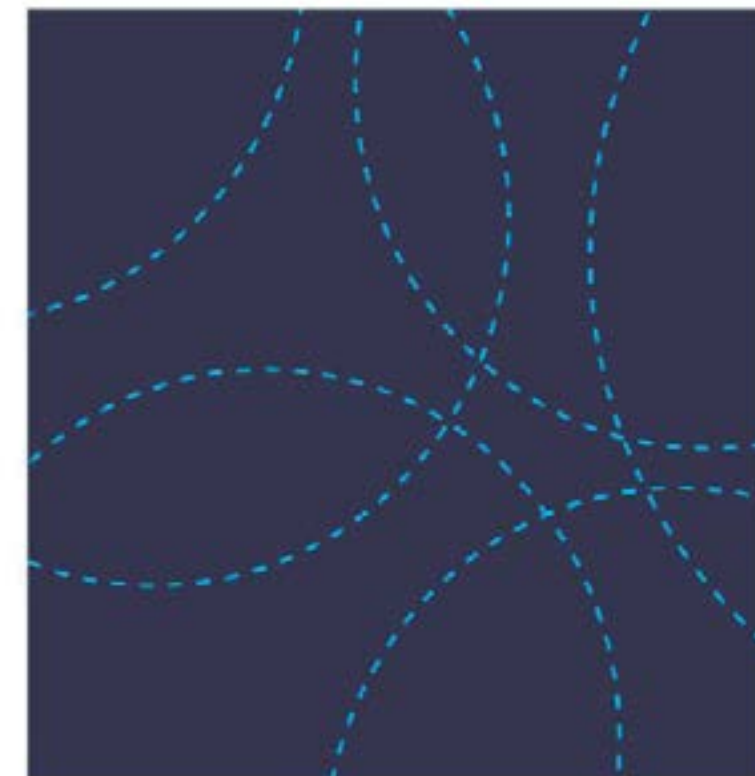
With world-class training, education, and research in air traffic control, technical training, and aviation human factors areas, ERAU is uniquely positioned to lead a team of universities to compete for the COE. Team members are still being added, but the team will include ERAU (as lead), the University of North Dakota, Purdue University, Hampton University, The Ohio State University, Western Michigan University, and Drexel University as core universities. These core universities both add to and complement our strength in air traffic control (4 are AT-CTI schools), technical training, aviation education, research, and human factors. Our team also includes Arizona State University, Kansas State University, Kent State University, Middle Tennessee State

University, University of Southern California School of Cinematic Arts, University of Washington, University of Wisconsin, and Wichita State University (National Institute for Aviation Research), as affiliate universities. We have nearly 25 industry partners on our team. Our team's website is www.aeriscenter.org.

http://www.faa.gov/about/office_org/headquarters_offices/ang/offices/management/coe

https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/operations/at_cti/

¹ AT-CTI stands for Air Traffic Collegiate Training Initiative program. The program is designed to 'establish partnerships with higher educational institutions to broaden the employment opportunities in the aviation industry', particularly air traffic controllers. Approximately 30 schools are involved in the AT-CTI program.



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